

**IN THE CLAIMS:**

**Applicant respectfully requests that the claims of the above-identified  
be amended so as to read as follows:**

1. (Currently Amended) An electric resistance type detecting sensor in which  
a pair of electrodes consisting of a first electrode and a second electrode  
is provided oppositely to each other on the surface of an electrically  
insulated substrate, and a film of electroconductive fine particles modified  
with a probe is formed on and/or between the electrodes,  
the probe being selected from a nucleic acid and a protein, and  
the film being modified with the probe thereon via one end of the probe.
2. (Withdrawn)
3. (Original) The electric resistance type detecting sensor according to claim 1, wherein  
the film of electroconductive fine particles comprises a binder.
4. (Original) The electric resistance type detecting sensor according to claim 1, wherein  
the probe is DNA or an antibody.
5. (Original) The electric resistance type detecting sensor according to claim 1, wherein  
the electroconductive fine particles are gold nano-particles.
6. (Original) The electric resistance type detecting sensor according to claim 5, wherein  
the binder is 1,10-decanedithiol.

7. (Currently Amended) The electric resistance type detecting sensor according to  
claim 4, wherein the DNA or antibody is activated with SH or NH<sub>2</sub> group.

8. (Canceled, without prejudice)

9. (Canceled, without prejudice)

10. (Withdrawn)

11. (Withdrawn)

12. (Withdrawn)

13. (Withdrawn)

14. (Withdrawn)

15. (Withdrawn)

16. (Withdrawn)

17. (Withdrawn)

18. (Withdrawn)

19. (Withdrawn)

20. (Withdrawn)

21. (Withdrawn)

22. (Withdrawn)

23. (Withdrawn)

24. (Withdrawn)

**Please add the following New Claims 25-32:**

25. (New) The electric resistance type detecting sensor according to claim 1, wherein the substrate has two or more fine recesses formed on the surface thereof;

the film of electroconductive fine particles is formed on the inner surface of the respective recesses; and

the first and second electrodes are formed so as to be electrically connected to the film of electroconductive fine particles.

26. (New) The electric resistance type detecting sensor according to claim 25, wherein the first electrode is formed on the surface of the substrate and the second electrode is formed on the inside of the respective recesses.

27. (New) The electric resistance type detecting sensor according to claim 26, wherein either of the first or second electrodes are electrically connected to each other.

28. (New) The electric resistance type detecting sensor according to claim 25, wherein two or more recesses formed on the surface of the substrate are arranged in a matrix formed from a plurality of rows and columns, and the first electrodes in the respective rows and the second electrode in the respective columns are electrically connected to each other, respectively.

29. (New) The electric resistance type detecting sensor according to claim 25, wherein the recesses are in the form of a cone.

30. (New) An electric resistance type detecting method of detecting the presence of a target substance which reacts with a probe selected from nucleic acid and a protein, comprising:
  - modifying, with the probe, a film of electroconductive fine particles formed on the surface of an electrically insulated substrate;
  - applying a test sample including a substance to be detected to the modified film; and
  - measuring an electrical resistance value between two points of the film of electroconductive fine particles.
31. (New) An electric resistance type detecting method of detecting the presence of a target substance which reacts with a probe selected from a nucleic acid and a protein, comprising:
  - preparing, in advance, a test sample containing a substance to be detected and the probe,
  - applying the test sample onto a film of electroconductive fine particles formed on the surface of an electrically insulated substrate; and
  - measuring an electric resistance value between two points of the film of electroconductive fine particles.
32. (New) The electric resistance type detecting method according to claim 30 or claim 31, wherein the probe is DNA or an antibody.